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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Luc Dartois

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EXAMINER

DSOUZA, JOSEPH FRANCIS A

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/987,758	<b>Applicant(s)</b> DARTOIS, LUC	
	<b>Examiner</b> ADOLF DSOUZA	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 10 and 14 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 7, 11 - 13 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Independent claims 1, 9, 11 and 14 were previously allowed. In this action the allowance on claims 1 and 11 is withdrawn in view of Barazeche et al. (US 4645884). Another Non-Final Action is presented below.

***Claim Objections***

2. Claim 12 is objected to because of the following informalities: The preamble is incorrect. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 11 is a single means claim reciting a single means for performing the operations specified.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 2, 4, 6, 7, 11, 12, 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Hellberg (US Patent 6,324,559) in view of Barazeche et al. (US 4645884).

With regard to claim 1, Hellberg discloses a method of optimizing the performance of a mobile radio system multicarrier transmitter using processing operations comprising discrete Fourier transform (DFT) computation, carriers shaping and/or filtering in the frequency domain, inverse discrete Fourier transform (IDFT) computation, overlapping of processed sample blocks, and an over sampling factor related to a ratio between an input sampling frequency and an output sampling frequency, and a length LDFT of the DFT and a length LIDFT of the IDFT are chosen in such a manner as to enable said over sampling ratio to be satisfied and to enable said filtering (Fig. 4; col. 9, lines 5-62, col. 10, lines 55-67-col. 11, lines 1-67, col. 12, lines 1-13).

Hellberg does not disclose the input sampling frequency corresponds to a modulation rate of the input signal.

In the same field of endeavor, Barazeche discloses the input sampling frequency corresponds to a modulation rate of the input signal (column 4, lines 58 - 62; wherein the input sampling frequency corresponds to a modulation rate of the input signal is interpreted as them being equal).

Therefore it would be obvious to one of ordinary skill in the art, at the time the invention was made, to use the method, as taught by Barazeche, in the system of Hellberg

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because lowering the sampling rate would reduce the hardware and computational complexity of the system, as is well known to one of ordinary skill in the art.

With regard to claim 2, claim 2 inherits all the limitations of claim 1. Hellberg further discloses wherein, if the ratio  $LIDFT/LDFT$  is not an integer, the denominator of the fraction  $LIDFT/LDFT$  when simplified is chosen to be as small as possible, to provide the finest possible choice of the length  $L$  of the blocks of samples with no overlap at the input of the DFT, and therefore the finest possible choice of the percentage overlap (col. 5, lines 42-51).

With regard to claim 4, claim 4 inherits all the limitations of claim 1. Hellberg further discloses if the ratio  $LDFT/LIDFT$  is an integer, the lengths  $LDFT$  and  $LIDFT$  are chosen in such a manner as to provide the finest possible choice of the over sampling factor or the output sampling frequency (col. 5, lines 42-51 ).

With regard to claim 6, Hellberg discloses before effecting said DFT computation, a frequency shift  $DF$  is applied in the time domain equal to the algebraic difference between the required central frequency of the corresponding . filtered signal and the closest frequency sample coming from said DFT computation (col. 9, lines 5-62, col. 10, lines 55-67-col. 11, lines 1-67, col. 12, lines 1-13).

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With regard to claim 7, Hellberg discloses before effecting said DFT computation, to compensate phase jumps between samples at the output of the IDFT, a complex multiplication is effected of the input samples by a complex of unit modulus and opposite phase to the phase jump to be compensated (col. 10, lines 45-67 - col. 11, lines 1-52).

Claim 11 is directed to apparatus of the same subject matter claimed in method/steps claim 1 and therefore, is rejected as explained in the rejection of claim 1 above.

Claim 12 is directed to apparatus of the same subject matter claimed in method/steps claim 6 and therefore, is rejected as explained in the rejection of claim 6 above.

Claim 13 is directed to apparatus of the same subject matter claimed in method/steps claim 7 and therefore, is rejected as explained in the rejection of claim 7 above.

***Allowable Subject Matter***

6. Claims 9, 10, 14 allowed.

7. Claims 3, 5, 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADOLF DSOUZA whose telephone number is (571)272-1043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Adolf DSouza  
Examiner  
Art Unit 2611

AD

/Kevin M. Burd/  
Primary Examiner, Art Unit 2611  
8/17/2008